

Balanced diet, exercise may not prevent gestational diabetes

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It may be time to reconsider the conventional wisdom for preventing gestational diabetes: limiting weight gain and increasing physical activity.

"Our data suggest that in pregnancy, energy balance—the calories consumed versus the calories burned—may not determine the development of [gestational diabetes](#)," said Leanne Redman, Ph.D., director of LSU Pennington Biomedical Research Center's Reproductive Endocrinology and Women's Health Lab. "We and others now believe that there are different types of gestational [diabetes](#) that warrant different approaches to treatment and prevention."

The new Pennington Biomedical study is the latest evidence that the "first-line" strategy for preventing [gestational diabetes mellitus](#) isn't working. Over the past five years, more than 5,000 pregnant women took part in clinical trials that focused on limiting weight gain in order to prevent gestational diabetes.

The result? The moms-to-be improved their diet quality, ate less, and increased their physical

activity. They also developed gestational diabetes at about the same rates as the women who didn't change their diet or activity levels.

"Preventing gestational diabetes is not as simple as reducing [weight gain](#)," said Jasper Most, Ph.D., co-lead author of the study. "It may require more individualized approaches based on each person's risk factors."

Some women may develop gestational diabetes because their pancreas doesn't adapt adequately to producing additional insulin to match the increased demand of pregnancy, Dr. Most said. Others may develop gestational diabetes because their muscles and livers become more insulin resistant.

Most and Nicholas Broskey, Ph.D., are co-lead authors of Pennington Biomedical's new study published in *Cell Metabolism*. Both are postdoctoral researchers in the Reproductive Endocrinology and Women's Health Lab.

The five-year study looked at 62 pregnant women with obesity. Nine developed gestational diabetes.

Researchers found that:

- The primary risk factors for gestational diabetes, such as excess fat and insulin resistance, were evident early in pregnancy.
- Women that developed gestational diabetes tended to be heavier. They weighed 10 pounds to 35 pounds more. They also had more body fat, from 7 pounds to 25 pounds, and significantly more fat around their waists.
- The women also had more relatives with diabetes, significantly higher fasting blood sugar levels and a greater prevalence of prediabetes. Redman said the study's findings do not mean that [pregnant women](#) should abandon their efforts to eat a more healthy diet and be physically active.

"But the results do underscore the need to better understand the way that gestational diabetes develops in women with obesity," Dr. Redman said.

New research is needed into other factors that lead to insulin resistance in pregnancy, Dr. Redman said. In their next study, the scientists hope to better classify the different types of gestational diabetes and to study [energy balance](#) in addition to insulin secretion.

Gestational diabetes leads to health issues for the mother and child, issues which can extend well beyond pregnancy. Among other things, around 50 percent of the women with gestational diabetes go on to develop type 2 diabetes, according to the federal Centers for Disease Control. Babies exposed to gestational diabetes are more likely to develop type 2 diabetes and have a higher risk of being overweight or developing obesity.

Provided by Louisiana State University

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